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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/517,745
Filing Date: December 09, 2004
Appellant(s): BERGLER, EWALD

Thomas H. Ham
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on 02/16/2010 appealing from the Office action mailed 09/16/2009.

(1) Real Party in Interest

A statement identifying the real party of interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-11 were rejected in the last office action mailed on 09/16/2009.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken is being maintained by the examiner.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

The following is a listing of the evidence relied upon in the rejection of claims under appeal:

Applicant's background of invention (Applicant's admitted prior art)

4,646,327	Kojima et al.	02-1987
2002/0126857	Hile et al.	09-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (background of invention) and Kojima et al. (hereafter, referred as Kojima) (US 4,646,327), further in view of Hile et al. (hereafter, referred as Hile) (US 2002/0126857).

As to claims 1 and 5, Applicant in the background of invention discloses a data carrier 1 (see Fig. 1), which is designed to modulate a carrier signal (CS) that can be received in a contactless manner (see page 4), and which is equipped with transmission means (2), designed to transmit the carrier signal, and which is equipped with an

electrical circuit (3), which circuit is equipped with at least one terminal (4,5), to which terminal the transmission means (2) is connected and via which terminal (4) the carrier signal can be fed to the circuit (3), and which circuit (3) is equipped with a data signal source (9) designed to generate and emit a data signal (see page 5) having only two voltage values (see page 5, lines 9-13), and which circuit is equipped with modulation means (11) designed to receive the data signal and, using the data signal, to modulate the carrier signal occurring at the at least one terminal, and to generate an amplitude-modulated signal (see page 5, line 21) inherently having only two amplitudes (since the signal is a digital signal, the values are (0,1) or (1,-1)), in which amplitude-modulated signal, signal edges occur (see page 5, line 34). Applicant in the background of invention discloses all the subject matters claimed in claims 1 and 5, except that a signal-edge influencing means provided in the circuit, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal. Kojima discloses a data transmitting-receiving system (see Fig. 2, and column 2, lines 1-4). Kojima discloses that the data transmitting-receiving device has an input terminal 10 to which digital data from an information source is supplied, a low-pass filter 13 and an amplitude modulator 14 and band-pass filter 15 through which the output of modulator 14, is applied to a transmission line (see column 2, lines 50-60). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Applicant's background of invention as taught by Kojima and add a low-pass filter between the data source and amplitude modulator to correct the distortions in the communication system (see column 1, lines 1-18). Kojima does not expressly disclose that the low-pass filter is

designed to influence the slope characteristic of the signal edges, however, since a frequency domain representation of a pulse can be written as $X(f) = a_0 \sin \omega_0 + a_1 \sin \omega_1 + \dots + a_n \sin \omega_n$, and the transfer function of the low-pass filter can be represented as $H(f) = \frac{1}{1 + j\omega RC}$, where R is resistance, C is capacitance, when a pulse passes through a low-pass filter, the filter only passes the frequencies which are in the pass-band of the filter and therefore the output pulse has a slope. As further evidence Examiner would like to call the attention of the Applicant to reference Hile, where Hile discloses a circuit device 300 (see Fig. 3), wherein a signal received at input 330 is shaped prior to driving transistor 340 by a relatively small, relatively low cost low pass filter, including resistor 365 and capacitor 370, preferably designed with a roll off frequency near the design frequency of the sound generator (see paragraph 0023). Hile further teaches that the low pass filter produces a gradual slope to the edges (interpreted as influencing the slope characteristic of the signal edges in the modulated signal) of each pulse of the signal, while still allowing the frequency range that is desired, to be achieved (see paragraph 0023). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Applicant's background of invention and Kojima as suggested by Hile to perform low-pass filtering on the source signal to improve the quality of the signal (see Hile paragraphs 0005 and 0026) and also avoid sending a signal with sharp edges to the modulator and therefore enhance the performance of the communication system.

As to claims 2 and 6, Kojima further discloses that the signal-edge influencing means 13 is realized by filtration means (see column 2, lines 50-60).

As to claims 3 and 7, Kojima further discloses that the filtration means 13 is provided between the data signal source (not shown, however it is located before waveform shaping apparatus (see column 2, lines 50-60)) and the modulation means 14 and designed to filter the data signal that can be emitted from the data signal source to the modulation means.

As to claims 4 and 8, Kojima further discloses that the filtration means is formed by a low-pass filter 13 (see column 2, lines 50-60).

As to claim 9, Applicant in the background of invention discloses that the circuit (3) is realized as an integrated circuit (see page 4, line 20).

As to claims 10 and 11, Applicant's admitted prior art discloses that the modulation means includes a transistor with a control terminal (see Fig. 1) which directly receives the input signal. Hile shows that the filtration means includes a resistor 365 and a capacitor 370 connected to the ground (see Fig. 3). Hile further shows that both resistor and capacitor are directly connected to their next circuit element (here resistor 375). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to directly connect the control terminal of transistor disclosed by Applicant's admitted prior art to the capacitor and resistor disclosed by Hile, while incorporating the teaching of Hile in the circuit disclosed in the Applicant's background of invention to connect the components of the circuit properly and to improve the quality of the signal (see Hile paragraphs 0005-0006 and 0026).

(10) Response to Argument

introduction

Prior to responding to the arguments, the examiner would like to describe the field of invention.

The invention relates to a data carrier which is designed to modulate a carrier signal that can be received in a contactless manner and which is equipped with transmission means designed to transmit the carrier signal, and a data signal source designed to generate and emit a data signal, and modulation means, which has been designed to receive the data signal and, using the data signal, to modulate the carrier signal occurring at the transmission means and to generate an amplitude-modulated signal, which amplitude-modulated signal has signal edges, wherein, in addition, a signal-edge influencing means is provided, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal.

Response to argument(s)

The examiner discusses the claims in the same order as the appellant.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (background of invention) and Kojima et al. (hereafter, referred as Kojima) (US 4,646,327), further in view of Hile et al. (hereafter, referred as Hile) (US 2002/0126857).

Claims 1 and 5-Appellant argues that the reasoning provided by the Examiner to support the legal conclusion of obviousness for the independent claim 1 with respect to modifying AAPA with teachings of Kojima et al. is "to correct the distortions in the communication system" by citing column 1, lines 1-18, of Kojima et al. However, this reasoning provided by the Examiner is without any rational underpinning, because column 1, lines 6-10, of Kojima et al. states that the invention disclosed in Kojima et al. "is directed to a waveform shaping apparatus having improved precision for correcting distortion". Thus, the distortion correction described in Kojima et al. is with respect to a waveform shaping apparatus, i.e., the waveform shaping apparatus 11 shown in Figs. 1 and 2, not the low-pass filter 13, which is also shown in Fig. 2. Appellant argues that since the distorting correction described in column 1, lines 1-18, in Kojima et

al. is directed to the waveform shaping apparatus 11, not the low-pass filter 13, the reasoning set forth by the Examiner is not applicable to the low-pass filter 13.

Examiner asserts that there are several inherent characteristics associated with the low-pass filters, including reducing out-of-band distortion, reducing out-of-band noise, etc. Although Kojima does not expressly disclose that the low-pass filter also plays a role in reducing the distortion in the system, because of the inherent characteristics of the low-pass filter (as explained above) the motivation provided by the Examiner is proper. Furthermore, Examiner would like to call the attention of the Appellant to the fact that the motivation argued by the Appellant is not the only motivation provided by the Examiner for using a low-pass filter. As cited in the previous office action, it would have been obvious to one of ordinary skill in the art at the time of invention to perform low-pass filtering on the source signal to avoid sending a signal with sharp edges to the modulator and therefore enhance the performance of the communication system.

Appellant also argues that the signal of interest in Hile et al. is sound not digital data signal, as is the case in AAPA and Kojima et al. Therefore there is no rational basis to apply the teachings of Hile et al. to the teachings of AAPA and/or Kojima et al.

Examiner respectfully disagrees. Examiner asserts that although the signal used by Hile is a sound signal, the teachings of Hile are still applicable to the other communication systems, because Hile does not criticize, discredit, or otherwise discourage using the low-pass filter in the other communication

systems. Furthermore, the type of the signal used in the communication system does not change the inherent characteristics of the low-pass filter.

Claims 10 and 11-Appellant argues that since Hile et al. teaches that the resistor 365 and the capacitor 370 are directly connected to the resistor 375, not the transistor 340, the Examiner must provide some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness as to why it would have been obvious to directly connect the resistor 365 and the capacitor 370 to the transistor described in AAPA in order to establish prima facie case of obviousness for claims 10 and 11.

Examiner asserts that as cited in the previous office action Appellant in the background of invention discloses all the subject matters claimed in claims 1 and 5, except that a signal-edge influencing means (i.e. a low-pass filter) provided in the circuit, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal. Kojima discloses a data transmitting-receiving system (see Fig. 2, and column 2, lines 1-4). Kojima discloses that the data transmitting-receiving device has an input terminal 10 to which digital data from an information source is supplied, a low-pass filter 13 and an amplitude modulator 14 and band-pass filter 15 through which the output of modulator 14, is applied to a transmission line (see column 2, lines 50-60). Therefore Kojima teaches using a low-pass filter between a source and a modulator. Kojima does not disclose the circuit details of the low-pass filter, however, reference Hile discloses a circuit device 300, wherein a signal received at input 330 is shaped

prior to driving transistor 340 by a relatively small, relatively low cost low pass filter, including resistor 365 and capacitor 370, preferably designed with a roll off frequency near the design frequency of the sound generator (see paragraph 0023). Reference Hile shows that resistor 365 and capacitor 370 of the low-pass filter have been directly connected to their next circuit element. The combination of references, in the rejection made by the Examiner, shows that it would have been obvious to one of ordinary skill in the art to incorporate the low-pass filter disclosed by Hile in the Applicant's background of invention. In order to properly connect the components of the system disclosed by Applicant's background of invention after incorporation of the low-pass filter, one of ordinary skill in the art would clearly realize that the low-pass filter components (i.e. the resistor 365 and capacitor 370) should be connected to the next element in the circuit which is the components inside the modulator 11 (i.e. the control terminal of transistor as shown in Fig. 1 of AAPA). Therefore, it is clearly recognizable that the resistor and capacitor should be directly connected to the control terminal of the transistor.

Claims 2-4 and 6-9- Appellant does not argue the individual limitations of dependent claims 2-4 and 6-9. Therefore the response to arguments for claims 2-4 and 6-9 is the same as the response to the arguments of claims 1 and 5 as stated above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Leila Malek

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